

## Integrator Operable Units

### Background

Integrator Operable Units (IOUs) are defined as surface water bodies (e.g., site streams and the Savannah River) and associated wetlands, including the water, sediment, and related biota. The Savannah River Site (SRS) has six IOUs that correspond to the respective watersheds: Upper Three Runs, Lower Three Runs, Fourmile Branch, Steel Creek, Pen Branch, and the Savannah River.

SRS is investigating the IOUs because they represent a possible pathway for the release of contamination from SRS activities to on-site and off-site receptors and the environment. The term Integrator Operable Unit is used because these surface water bodies are the “integrator” of potential contamination. The SRS potential sources include Resource Conservation and Recovery Act / Comprehensive Environmental Response, Compensation and Liability Act (RCRA/CERCLA) operable units (OUs), RCRA treatment, storage and disposal (TSDs) units, National Pollutant Discharge Elimination System (NPDES) outfalls, and operational facilities.

### IOU Program Objectives

The primary objectives of the IOU program are as follows:

- Assess risk to potential human and ecological receptors from IOU contamination exposure
- Evaluate the impact of active and inactive waste units and operating facilities on the IOU
- Determine if IOU early actions, including reprioritization of OU implementation schedules are necessary
- Propose and implement early action as required
- Complete the Remedial Investigation/Feasibility Study (RI/FS) process by defining the nature and extent of contamination, remedial action objectives, and final remedial goals.

The IOU program is implemented in three phases that ultimately culminate in a Record of Decision (ROD) for each of the IOUs.

### IOU Program Implementation: Phase I

Phase I objectives for the IOU program are as follows:

- Assess, based on existing data, whether current IOU contamination poses an imminent and substantial risk to human health and the environment

- Determine the need for, propose, and implement IOU early actions, including reprioritization of OUs
- Define additional data needs to make early action decisions and begin building a database to support the preparation of the Phase III Baseline Risk Assessment (BRA).

The Phase I Remedial Investigation (RI) Work Plans have been completed and approved by the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the South Carolina Department of Health and Environmental Control (SCDHEC).

### **IOU Program Implementation: Phase II**

Phase II of the IOU program includes ongoing sampling and assessment of the IOU and refinement of the Conceptual Site Model (CSM) until the initiation of Phase III. Phase II is a dynamic and flexible investigation of the IOU, continuing in parallel with the OU investigations. The OU investigations may identify previously unknown impacts to the IOU or the IOU assessments may identify the need for early actions, such as reprioritization of OU investigations. Phase II is an iterative assessment process that ensures sufficient information is available to determine the need for and type of early actions necessary. Phase II concludes when the OU investigations within the specific IOU are complete. At that time, the entire IOU is addressed holistically for final disposition.

If a portion of the IOU has the potential to accelerate into Phase III, the subsequent periodic report identifies and proposes the accelerated strategy. A meeting is then scheduled to obtain a three-party agreement (DOE, EPA and SCDHEC) on the path forward. During Phase II, periodic reports are prepared approximately every two years. The following information is included in the periodic reports:

- New media data, including surface water, sediment, and biota sampling
- Fish movement, wildlife surveys, and other ecological surveys, as appropriate
- OU sampling as it impacts the IOU
- Newly identified OUs potentially affecting the IOU
- New information on previously identified sources potentially affecting the IOU
- Early actions status
- Refined CSM
- Data needs evaluation
- Benchmark evaluation
- Early action evaluation
- New sampling and analysis plans for the IOU
- Any sections of the IOU ready to move to Phase III evaluation
- Schedule for the next periodic report.

### **IOU Program Implementation – Phase III**

Phase III of the IOU program is the completion of the RI/FS process through the ROD and remedial action, if applicable. The RI/FS for the IOU is initiated upon completion of the RI/FSs for all of the

OUs that may impact the IOU. At that time, the available data is evaluated to assess whether final remedial action objectives and the corresponding CERCLA BRA can be developed. If additional data is needed, a final Sampling and Analysis Plan will be proposed in the final periodic report.